

REPORT ON MACHINERY.

No. 12938

Port of *Glasgow*

Received at London Office **TUES. 15 MAY 1894**

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey *1st Sept 1893* Last Survey *3rd May 1894*
(Number of Vessels *38*)

on the *P. P. Citrine*

Tons { Gross *602*
Net *199*
When built *1894*

Master *W. Leitch* Built at *Boaling* By whom built *Scott & Sons*

Engines made at *Glasgow* By whom made *Muir & Houston* when made *1894*

Boilers made at *Glasgow* By whom made *Muir & Houston* when made *1894*

Registered Horse Power *98.120* Owners *W. Robertson* Port belonging to *Glasgow*

Net Horse Power as per Section 28 *108*

ENGINES, &c.— Description of Engines *Triple Expansion* No. of Cylinders *Three*
Diameter of Cylinders *17" 27 1/4" 44"* Length of Stroke *30"* Revolutions per minute *110* Diameter of Screw shaft *8"*
Diameter of Tunnel shaft *8"* Diameter of Crank shaft journals *8"* Diameter of Crank pin *8"* Size of Crank webs *11 x 5 1/2"*
Diameter of screw *9-6* Pitch of screw *13-0* No. of blades *4* State whether moveable *fixed* Total surface *42.99 sq ft*
No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *14"* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *14"* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *one* Sizes of Pumps *5 3/4 x 3 1/2 x 7"* No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room *Low 2 1/2"* In Holds, &c. *Low 2 1/2"*
No. of bilge injections *one* sizes *3 1/2"* Connected to condenser, or to circulating pump *pump* Is a separate donkey suction fitted in Engine room *yes* size *2 1/2"*
Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *none*
Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the discharge pipes above or below the deep water line *above*
Are they each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*
Are all pipes carried through the bunkers *four ports & tank suction* How are they protected *land in*
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
Are the stern tube, propeller, screw shaft, and all connections examined in dry dock *yes* Is the screw shaft tunnel watertight *none*
Is the screw shaft fitted with a watertight door *yes* Is it worked from *yes*

BOILERS, &c.— (Letter for record *3*) Total Heating Surface of Boilers *1650 sq ft*
No. and Description of Boilers *one cylindrical multitubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320*
Date of test *17/4/94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *63 sq ft* No. and Description of safety valves to boiler *a pair direct spring* Area of each valve *7 sq"* Pressure to which they are adjusted *160 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *planks clear* Mean diameter of boilers *14' 6"*
Material of shell plates *steel* Thickness *7/16"* Description of riveting: circum. seams *Lap too rivet long* seams *double butt*
Pitch of rivets in long. seams *1 1/4"* Pitch of rivets *7 3/4"* Lap of plates *width of butt straps 17"*
Strength of strength of longitudinal joint *99* Working pressure of shell by rules *164 lbs* Size of manhole in shell *16 x 12"*
No. of compensating ring *McNeil* No. and Description of Furnaces in each boiler *three plain* Material *steel* Outside diameter *44"*
No. of plain part *top 3-0 bottom 6-6"* Thickness of plates *23/32"* Description of longitudinal joint *Butt* No. of strengthening rings *one*
Working pressure of furnace by the rules *160 lbs* Combustion chamber plates: Material *steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *7/8"*
No. of stays to ditto: Sides *8 1/4 x 8 1/4"* Back *8 1/4 x 8 1/4"* Top *8 1/4 x 7 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *161*
Material of stays *steel* Diameter at smallest part *1 1/4"* Area supported by each stay *68 sq"* Working pressure by rules *170 lbs* End plates in steam space: *horizontal*
Material *steel* Thickness *7/8"* Pitch of stays *15 x 14 1/2"* How are stays secured *double nut* Working pressure by rules *161* Material of stays *steel*
Area at smallest part *4.37* Area supported by each stay *217 sq"* Working pressure by rules *181* Material of Front plates at bottom *steel*
Material of Lower back plate *steel* Thickness *3/4"* Greatest pitch of stays *12 1/2"* Working pressure of plate by rules *264 lbs*
Pitch of tubes *4 3/4"* Material of tube plates *steel* Thickness: Front *7/8"* Back *3/4"* Mean pitch of stays *9 1/2"*
Pitch of tubes *4 3/4"* Working pressures by rules *225 & 224 lbs* Girders to Chamber tops: Material *iron* Depth and
Pitch of girder at centre *8' x 2"* Length as per rule *38"* Distance apart *7 1/2"* Number and pitch of Stays in each *three 8 1/4"*
Working pressure by rules *164 lbs* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler worked *yes*
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
Are they fitted with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

DONKEY BOILER— Description *vertical*
 Made at *Glasgow* By whom made *Wm & A Hamilton* When made *1894* Where fixed in *Stothole*
 Working pressure *70* tested by hydraulic pressure to *140 lb* No. of Certificate *3895* Fire grate area *10* Description of safety valves *spring*
 No. of safety valves *one* Area of each *4.9* Pressure to which they are adjusted *70 lb* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *4.3"* Length *9.6"* Material of shell plates *steel* Thickness *3/8"*
 Description of riveting long. seams *lap joint* Diameter of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *3 1/4"*
 Lap of plating *6"* Per centage of strength of joint *96* Thickness of shell crown plates *1/2"* Radius of do. *4.2* No. of Stays to do. *none*
 Dia. of stays. *-* Diameter of furnace Top *36 1/4"* Bottom *43"* Length of furnace *4.0"* Thickness of furnace plates *7/16"* Description of joint *lap* Thickness of furnace crown plates *7/16"* Stayed by *drilled uptake* Working pressure of shell by rules *104 lb*
 Working pressure of furnace by rules *88 lb* Diameter of uptake *10"* Thickness of uptake plates *7/16"* Thickness of water tubes *3P*

SPARE GEAR. State the articles supplied:— *As required by the rules and also one span propeller*

The foregoing is a correct description,

Manufacturer.

Wm & A Hamilton

General Remarks (State quality of workmanship, opinions as to class, &c. *These engine & boiler have been built under special survey. The materials & workmanship are of good description. They have been well fitted on board. Steam has been raised on the main & donkey boilers & their safety valves adjusted. The engine tried under steam.*

It is submitted that this vessel is eligible for notification + LMC. 5-94.

Two tracings of the main boiler & two forging reports are appended hereto.

It is submitted that this vessel is eligible for THE RECORD + LMC 5-94

APR 15-5-94
[Large blue ink signature]

Certificate (if required) to be sent to

Glasgow

The amount of Entry Fee.. £ *2* : " : " When applied for, *10/5/94*
 Special £ *16* : *4* : " : " When received, *11/5/94*
 Donkey Boiler Fee £ " : " : " : "
 Travelling Expenses (if any) £ " : " : " : "

C. G. Stevenson
A. McNeill

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 18 MAY 1894
FRI 18 MAY 1894

Assigned

+ LMC 5-94

LR-PAF T84-26

One Set
 Gross Tonnage Dec
 Close spaces above
 See or spaces bet
 Break
 Forecastle Bridge
 Round House
 Other closed-in sp
 Exer
 Spaces